

# **CURRENT SENSE APPARATUS AND METHOD USING A COMBINATION OF A SIMULATION AND A REAL SENSE FOR A SWITCHING MODE POWER CONVERTER**

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## **ABSTRACT OF THE DISCLOSURE**

10           In a switching mode DC-to-DC power converter  
including a high-side transistor connected between an input  
voltage and an output node, a low-side transistor connected  
between the output node and a reference potential, and an  
inductor connected to the output node to derive an output  
15           voltage and an output current, a current sense apparatus and  
method employs a ramp signal generator to generate a ramp  
signal with a slope proportional to the difference between the  
input and output voltages, a DC signal generator to generate a  
DC signal proportional to the DC component of the current  
20           through the low-side transistor, and a summing circuit for  
combining the ramp and DC signals.